

10-5-2009

Stalk and Ear Rots Prevalent in Iowa

Alison E. Robertson

Iowa State University, alisonr@iastate.edu

Follow this and additional works at: <http://lib.dr.iastate.edu/cropnews>



Part of the [Agricultural Science Commons](#), [Agriculture Commons](#), and the [Plant Pathology Commons](#)

Recommended Citation

Robertson, Alison E., "Stalk and Ear Rots Prevalent in Iowa" (2009). *Integrated Crop Management News*. 521.
<http://lib.dr.iastate.edu/cropnews/521>

The Iowa State University Digital Repository provides access to Integrated Crop Management News for historical purposes only. Users are hereby notified that the content may be inaccurate, out of date, incomplete and/or may not meet the needs and requirements of the user. Users should make their own assessment of the information and whether it is suitable for their intended purpose. For current information on integrated crop management from Iowa State University Extension and Outreach, please visit <https://crops.extension.iastate.edu/>.

Stalk and Ear Rots Prevalent in Iowa

Abstract

The cool, wet growing season has favored infection and the development of certain corn ear and stalk rots in Iowa. Foliar diseases that occurred earlier in the growing season may have increased the risk of stalk rots in fields. In corn trials across the state, anthracnose and Gibberella stalk rots are common. Ear rots that are being reported across the state include Diplodia, Gibberella and Fusarium.

Keywords

Plant Pathology

Disciplines

Agricultural Science | Agriculture | Plant Pathology

[Subscribe to Crop News](#)



Archives

[2015](#)[2014](#)[2013](#)[2012](#)[2011](#)[2010](#)[2009](#)[2008](#)[Previous Years](#)

ISU Crop Resources

[Extension Field Agronomists](#)[Crop & Soils Info](#)[Pesticide Applicator Training](#)[Agronomy Extension](#)[Entomology Extension](#)[Plant Pathology Extension](#)[Ag and Biosystems Engineering Extension](#)[Agribusiness Education Program](#)[Iowa Grain Quality Initiative](#)[College of Agriculture and Life Sciences](#)[ISU Extension](#)

Integrated Crop Management NEWS

 PRINT STORY
 EMAIL STORY
 ADD TO DELICIOUS
 ATOM FEED
 FOLLOW ON TWITTER

Stalk and Ear Rots Prevalent in Iowa

By Alison Robertson, Department of Plant Pathology

The cool, wet growing season has favored infection and the development of certain corn ear and stalk rots in Iowa. Foliar diseases that occurred earlier in the growing season may have increased the risk of stalk rots in fields. In corn trials across the state, anthracnose and *Gibberella* stalk rots are common. Ear rots that are being reported across the state include *Diplodia*, *Gibberella* and *Fusarium*.

Since stalk rots lead to standability problems, fields should be scouted before or at black layer. At least 100 plants, scattered through out the field, should be assessed. Look for visible symptoms and test stalk firmness at the lower internodes with thumb and forefinger. If more than 15 percent of the stalks are rotted, schedule for the earliest possible harvest because significant lodging is possible.

Similarly, fields should be scouted for ear rots before harvest for a number of reasons: (1) ear rot diseases can reduce yield and quality of the corn harvest; (2) some ear rot fungi may produce mycotoxins which are harmful, and can be fatal, to livestock; and (3) ear rots can continue to be a problem in storage if the grain is not stored under optimum conditions.

Recognizing which stalk and ear rots are prevalent in a field is important for future management decisions. Susceptibility to these diseases differs amongst hybrids, so choosing a hybrid with a better disease tolerance score can help reduce disease risk in subsequent years. Rotation to soybean can also decrease disease since some pathogens survive in corn residue.

Diplodia Ear Rot

Diplodia ear rot is characterized by a dense white to grayish mold that starts at the base of the ear and is evident growing between the kernels (Figure 1). Oftentimes the husks of the ear are difficult to remove and appear "glued" to the ear by the mold. Very small, black fruiting bodies can be found scattered on husks or embedded in cob tissues and kernels.

Infected kernels are lightweight and have reduced nutritional value. Mycotoxin contamination of the grain under field conditions has not been reported in Iowa. Damage caused by *Diplodia* ear rot is usually limited to the field, but the pathogen can be a problem in storage if grain moisture is 20 percent or above.

Gibberella Ear Rot

A pink to red mold that usually starts at the tip of the ear is characteristic of *Gibberella* ear rot. This ear rot also has been detected on hail damaged ears (Figure 2) that have been received as part of the Hail Damage-Grain Quality Survey. The fungus that causes this ear rot produces several mycotoxins including DON (vomitoxin), zearalenone and T-2 toxin.

Fusarium Ear Rot

Symptoms of *Fusarium* ear rot are a white to pink- or salmon-colored mold, which occurs anywhere on the ear or on scattered kernels. Often the mold is

associated with insect-damaged kernels. We have also found Fusarium ear rot associated with hail damaged kernels (Figure 2). Infected kernels are often tan or brown, or have white streaks. The fungi that cause Fusarium ear rot produce mycotoxins known as fumonisins.

Gibberella Stalk Rot

A pink to reddish discoloration of the pith of corn stalks is symptomatic of Gibberella stalk rot (Figure 3). No distinct lesions occur on the outside of the stalk but small, round, bluish-black bodies may occur scattered around the nodes of the stalk. These are the fruiting structures of the fungus and they can be easily scraped off the stalk with a thumbnail.

Anthraxnose Stalk Rot

Black shiny lesions on the rind of the stalk are typical symptoms of anthracnose stalk rot (Figure 4). Internally, the pith of plants is discolored and shredded.



Figure 1. Diplodia Ear Rot

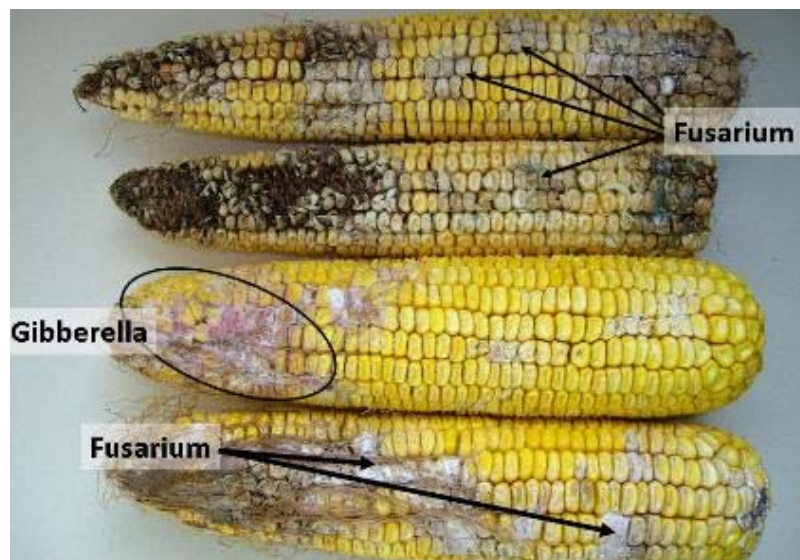


Figure 2. Gibberella and Fusarium ear rot on hail-damaged corn



Figure 3. Gibberella stalk rot



Figure 4. Anthracnose stalk rot

Alison Robertson is an assistant professor of plant pathology with research and extension responsibilities in field crop diseases. Robertson may be reached at (515) 294-6708 or by email at alisonr@iastate.edu.

may not be up to date depending on when you are accessing the information.

Links to this material are strongly encouraged. This article may be republished without further permission if it is published as written and includes credit to the author, Integrated Crop Management News and Iowa State University Extension. Prior permission from the author is required if this article is republished in any other manner.

Copyright ©2015 [Iowa State University Extension](#) | [Iowa State University](#)
[Contact us](#) | [For Staff](#) | [Nondiscrimination and Information Disclosures](#) | [CMS Admin](#)
Last Updated 10/4/2009